

# Virginia Wildlife

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COVER: "Winter Woods," white-tailed deer, by Ed Bierly, Lorton, Vir-  
ginia. (See page 29 for details on how to order a color reproduction of  
this painting.)

BACK COVER: Winter landscape by Hal Brainerd, North Tazewell,  
Virginia.



# Letters

## POOR CIRCULATION?

I subscribed to your magazine, covering the cost of \$5.00 for one year. My check dated August 27, 1980 cleared September 5, 1980.

This delay and poor handling is quite enough of your organization for me. I do not want an excuse or apology; I request a refund. Cancel my subscription.

Paul Lewis  
Fredericksburg

This letter was written October 5, 1980. It prompts us to explain to our subscribers what they may expect in the way of processing subscription orders. As most monthly publications do, we ask that you allow eight weeks for your first magazine to be delivered to you. Our work on a particular issue occurs approximately two months in advance of the publication date. While you are reading the December issue, the January issue is on its way to the printer, and the February issue is being typeset, proofed, and pasted up. This time frame is true for circulation matters, as well. —Assistant Editor

## BACK COVER QUESTIONS

The photo on the back cover of the September issue illustrated the ever-increasing loss of wildlife habitat due to land development [and] some very obvious violations of safety: The boy is resting his shotgun across the rail fence. The gun's muzzle is leveled on the construction site parking area. Why are the two hunting so close to the construction site? The adult hunter is standing off-balance while resting his left foot on the bottom rail of the fence. The adult hunter is dressed in full camouflage while the boy has on an orange vest. [He] should have on some orange garment as well so that he could be easily seen by the boy if they became separated.

Charlie Wilhelm  
Spotsylvania

While your points are well taken, you seem to have missed the point of the photograph. The man and his son are close to the construction site, but they are not hunting there. The idea was that these two had returned to their favorite hunting spot only to find that the land nearby was being developed. Their guns are not loaded, since they have just arrived to find the land as it is, ruined as a good place to hunt. That should take care of all your questions about safety except the one concerning their attire. While your idea is a good one, the adult hunter has not committed any safety violation by wearing full camouflage. The Game Commission has no regulations requiring that hunters wear blaze orange, recognizing this as a personal choice. —Assistant Editor

# Editorial

## THE THREE GHOSTS OF CHRISTMAS

If Charles Dickens' ghosts from his classic *Christmas Carol* were to carry us through time to visit the woods and waters and people of Virginia, what would we see? Certainly we could take satisfaction in some major accomplishments, but we would not be without apprehension for the future of things wild and beautiful.

As the Ghost of Christmas Past whisked us through time to the Virginia of just 50 years ago, we would find our state entering the Great Depression. Fish and game were important parts of the rural fare in those days and people lived close to the land and enjoyed a certain relationship with the wildlife that shared their world. The age of exploitation of wildlife was just ending, giving way to the emergence of the new conservation ethic.

We didn't realize it then, but we were just on the edge a new understanding of wildlife and its needs. At the same time, people were leaving the land, seeking work in urban areas as the farms they once tilled began to revert to forest.

Returning from our trip into the past, we have left a Virginia that was relatively rich in small game, but had few deer and turkeys. We have left a Virginia that still has clean waters, but few major lakes.

The Ghost of the Christmas Present gives us a new appreciation of our wildlife. Deer and turkey now abound where there were none. Many of the old farms are fully forested now, but at the cost of small game populations that have retreated before the closing of the open spaces and, more recently, before the bulldozer that clears hedgerows and leaves land without cover. We find new, sparkling lakes where there were none and more fish than ever to tempt the angler. We also find that there are fewer people on the farms these days and with the shift to cities and towns, folks are losing touch with wildlife and how it lives. Sadly, we also find that some of us are losing our respect for the land, its wildlife and those who care for it.

As we await the arrival of the Ghost of Christmas Yet To Come, we are apprehensive. Will the next 50 years benefit wildlife at least as much as the last 50? Will public attitudes truly recognize the needs and limitations of fish and wildlife and will we define progress to ensure the continued coexistence of those wild creatures that so enrich our lives? What can we do now that will set the course so that childhoods yet to come can be least as rich as ours have been? Let's hope that when the Ghost of Christmas Yet To Come takes us on our journey into the future, we will be greeted by hound music echoing in the hills and the whistling of wings in the marshes.—JPR







# Cottontail Country

Here's a formula to insure that you'll have rabbits where you want them.

by Sherman Lee Pruitt

The cottontail rabbit is found all over America. He resides and multiplies wherever a patch of cover and food is available. No other game animal has given so much sport to untold numbers of American sportsmen.

Every farm boy knows him well. On a frosty winter morning the little cottontail runs before beagle hounds amid the pulse-pounding bugle cries of the dogs and is indeed the prince of players on the vast outdoor stage.

After the hunt, the cottontail is the centerpiece of a late supper, his tasty meat the *piece de resistance* of a memorable meal.

The beloved cottontail thrives in the wilderness, the desert, and is often observed in the heart of some city, on a bit of park land or in the confines of an old, weed-grown burial ground.

He survives deep snows, drought, flood, predators (including man), disease, and parasites; and given the chance, will multiply, quickly populating a given area. Ninety percent of our cottontails thrive on farms and state game lands. The cottontail is a creature of the fields and thickets mostly observed after nightfall, as he emerges from his hideout to feed, play and propagate.

In the early 1930's, I lived on the edge of Gwynns Falls Park in northwest Baltimore. The Gwynns Falls and surrounding area contained over 1,000 acres of which 80 percent were wild lands, including two stream valleys, dense stands of scrub pine, beech, oak, walnut, scattered crabapple, red apple, ground vines, wild fox grapes and cherry, with open meadows of foxtail grass and sedge bordered by thick hedgerows of honeysuckle, blackberry and other shrubs.

Each spring, about two acres of cleared meadow were planted in scattered cabbage, kale, turnips and carrots. In addition to an estimated population of 700 cottontails, the wildlife present included quail (about one per two acres), red and gray fox in small numbers, skunk, raccoon, opossum, horned owl (four noted in 1935), one pair of osprey, redtail hawk, barn owl, black snake, king snake, box tortoise, one pair of nesting bald eagles, and countless songbirds including bluejay, robin, spotted wood thrush, warblers, crows, and woodcock. Only two pairs of woodchucks were noted. Deer were not present until 1960 when a pack of five were noted. The area now contains about 20 deer.

From 1935 to 1940 I spent many hours observing wildlife, specifically cottontails on the Gwynns Falls area. I arrived at several conclusions. Predators (including man) had little effect on the overall quantity and quality of the cottontail population. Cottontails start to nest about March in normal spring weather, continuing to raise young until October, and many young rabbits were noted in early November. During my observations, every type of weather condition existed including heavy snows up to 20 inches, hard rains, drought, extreme heat, extreme cold, sleet and ice storms, and heavy hail storms. Deep snows lasting several weeks caused some

light rabbit mortality due to food coverage, but no shortage of game was noted during the dog training season in November. The Gwynns Falls area was ideal territory, having about 40 percent meadow, dense thickets of honeysuckle, dwarf pine, cedar, brush piles, fruit trees, and stands of wild rose, blackberry and some scattered patches of cabbage, kale and other greens. No legal hunting was allowed, but the area was used by sportsmen for dog training. Cottontails spent their entire lives on the acreage on which they were born. Many rabbits observed here were flushed from the same covers weekly, moving not at all from an allotted 3 or 4 acres. Amazing as it seems, this great game nursery at the edge of a city produced the saturation point on cottontails simply because ideal cover and food conditions were present.

Rabbits have always been subject to diseases and infestation of parasites including ticks, tapeworms, lice, and fleas. Consideration must be given to the fact that with a prime habitat and ready food supply, especially during the critical winter months, a healthy, well-fed bunny may be more likely to survive nature's many obstacles, including parasites.

Some years ago I discovered an abandoned 300-acre farm at the foot of the Blue Ridge Mountains. Surrounding the ancient wooden untenanted abode were thick stands of honeysuckle, young pines, and scattered apple, pear, cherry, crabapple and other fruit trees. Open meadows of broom sedge and scattered brush piles at the forest edges made a perfect haven for rabbits. There, a beagle hound and I enjoyed our finest hunting experience. Cottontails were everywhere. After bagging a brace of bunnies for supper, I was fully content to let the dog work the endless thickets and listen to hound music. Besides rabbits there were quail, woodcock, pheasant and two prize deer flushed from the jungle-like covers. Near the foot of a mountain, the beagle flushed three grouse from the thick sedge grass dotted with gnarled crabapple trees. At dusk, the beagle and I quit for the day, driving homeward with the memory of a Roman holiday that seldom if ever occurs in these days of overcrowded game lands.

Every abandoned or semi-abandoned farm we ever hunted always contained a plethora of game animals and birds. This should tell us something.

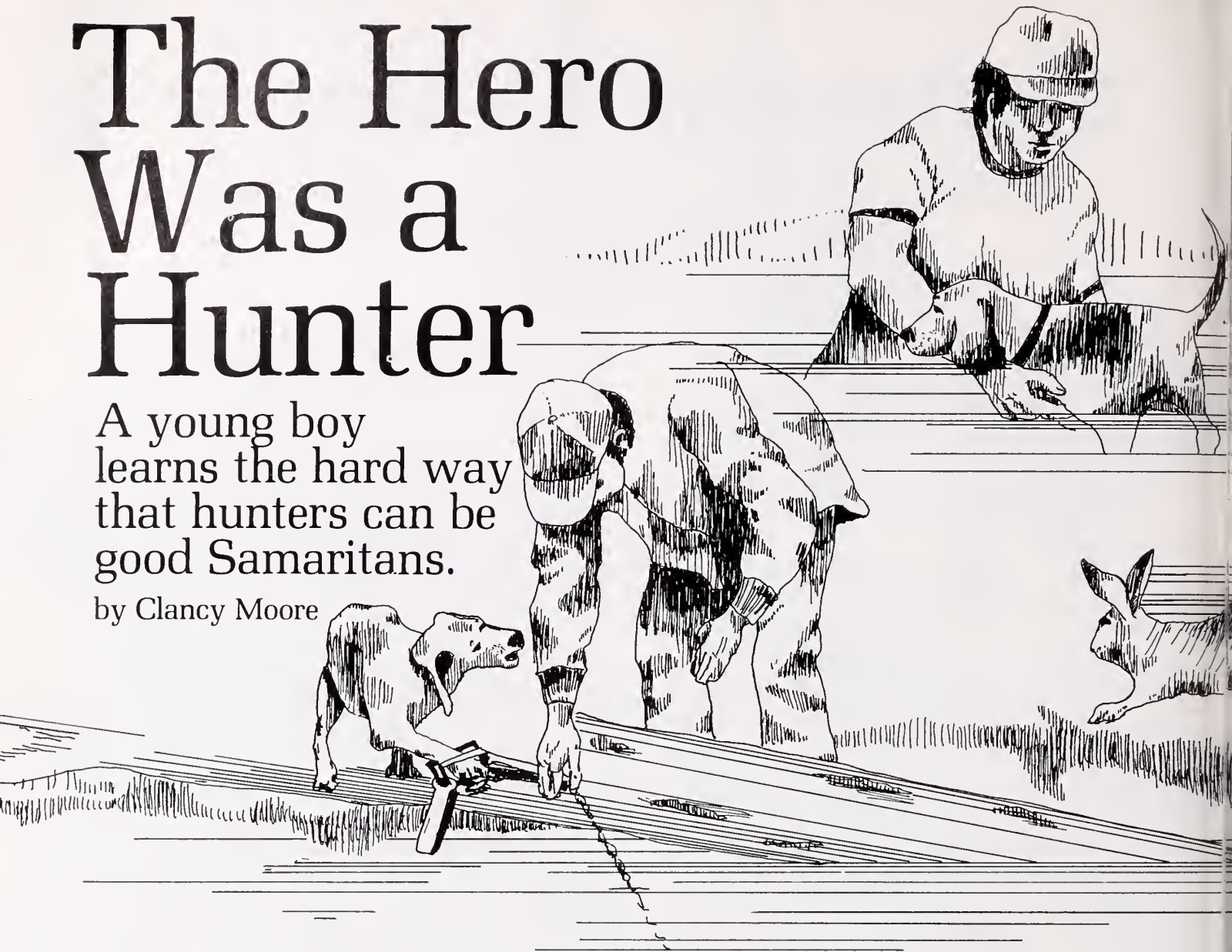
While it is not possible to increase our hunting and recreational land, we can bring our available acreage to full production by planting fruit trees, greens, garden plots at forest edges, blackberry shrubs, piling brush piles for winter, and any planting that will quickly increase the bunny population. Honeysuckle means rabbits.

An ideal game land would consist of thick cover, open meadows, fruit trees, brush piles, dwarf pine and cedar, cabbage, turnip and kale planted near forest edges, honeysuckle, wild rose, and multiflora rose lespedeza. You plant and you reap. The harvest in this case could be an abundant supply of cottontails. It is as simple as that. □

# The Hero Was a Hunter

A young boy learns the hard way that hunters can be good Samaritans.

by Clancy Moore



One of the things that distresses me most is the frequent characterization of hunters by some writers as trigger-happy, insensitive oafs, who care only for themselves and the sport of "killing." I can not accept this, and to substantiate my position I offer a personal experience.

As a young lad of eleven growing up in rural America, I was well-versed in the use of firearms. My one and only prized hunting weapon was a hand-me-down 16-gauge single barrel of such vintage that when the mainspring broke my father was unable to procure a replacement because of its obsolescence. To make the gun operable required fastening a large rubber band (a piece of inner tubing) under the fore stock. This was then pulled back and over the hammer spur after each reloading.

It was a cold gray January day that greeted my dogs and me as we briskly moved across the frozen cornfield to the river. My shoes made sharp crunching sounds on the now-empty corn shucks, and already I could feel the chilling cold begin to bite into my bones. As we hit the river bank and began to work our way through the numerous piles of driftwood deposited by earlier floods, I idly noted that the river was not completely frozen and that there were large chunks of white ice slowly twisting and turning as they made their way downstream. Three hours and four rabbits

later, my dogs and I were three and a half miles upstream and snow was beginning to float down, lightly at first, then with increased intensity. Suddenly, Old Spot, who had been exploring a pile of drift extending out into the river, gave a tremendous howl of pain and momentarily disappeared from sight in the dark icy water. As his head reappeared above the surface he gave another cry of pain and tried to climb back upon the pile of driftwood. However, his efforts were only partially successful since he was firmly caught by one hind leg in a steel trap. As I watched, his repeated efforts to climb out of the water became more and more feeble, and I suddenly realized it was only a matter of a few minutes and my friend and companion would be gone.

Dropping my gun, I yelled to him and scrambled wildly down the bank and into the icy water. I could only gasp as the cold water filled my shoes, covered my hips, and finally rested at shoulder level. But at least I had hold of my dog. As I gently lifted him out of the water and onto a floating log, I felt the heavy trap and chain holding him fast. The chain was securely padlocked, thereby removing one option. I had only one chance. I must remove his foot from the trap.

If you have ever experimented with a steel hunting trap you know that to set one requires a strong person to forcefully step on the spring trigger and this will force the steel





Luther L. N. Trower

jaws to open. Unfortunately, the chain was only long enough to barely allow the dog to remain on his log, much less to allow me to step on it. What now, I thought? Perhaps my hunting knife would enable me to pry the teeth apart? Dropping one hand from the dog, I reached back down into the water and quickly slid my prized two-dollar hunting knife from its sheath.

By now the cold water was taking effect as my teeth chattered and I began to shake. However, I finally succeeded in forcing the knife blade between the two steel jaws, slowly, until I finally had the blade to the hilt. Now I thought, push as hard as you can. Suddenly with a sharp crack the blade disappeared into the dark water and I was left with only a handle clenched in a small, icy-cold fist. Grabbing the trap with both hands, I squeezed with all the might and desperation of a boy who suddenly realizes that he and his dog are in real trouble, but to no avail. Finally, an accumulation of cold water, the cries of a pain-ridden dog, and the desperateness of the situation overcame me and I began to cry, pray and yell at the same time as I continued trying to free my dog. Suddenly, when it seemed as if there were no hope, a booming voice from across the river roared out, "What are you doing down in that water?!" Lifting a tear-streaked, frozen face I bawled back, "My dog is caught

and is going to drown if I don't get him out, and I can't get him loose."

At this point, many years later, all I really remember is the fellow throwing up his hands and saying, "Why me?" At that, he quickly shed most of his clothes, yelled for me to hang on, and swam the river. He opened the trap. As the jaws snapped open, Spot scrambled out of the water and up the snow-encrusted bank.

Standing in front of my new-found friend, who was nearly naked and beginning to shake almost as much as I was, I could only chatter, "Thank you, sir. You saved my dog." Glancing down at me, my rabbits and my old battered shotgun he said, "How old are you, Kid? Did you kill those rabbits? Where do you live? Now get out of here and get home." I chattered a hurried, "Yes, sir," picked up my gun, and set off for home at a rather fast trot. Within a very few minutes, I was a blue 5'4" icicle that cautiously poked his head through the kitchen door and said, "Hi, Mom. We had a little trouble."

Unfortunately, I was never able to locate my "Good Samaritan." However, I feel very strongly that hunters are not evil species, as some would have us believe, but are just like other human beings: some good, some bad, and some in between. □

by Rich Hardy

# The Ultimate River Lure

I am a river fisherman and on the river you face certain obstacles that other types of fishing do not have. The Shenandoah is a rough river, with shallows not deep enough to use a boat, and yet with deep holes and mossy rocks that make wading difficult. The clear spring waters and rapid currents offer the ultimate challenge of endurance, coordination, and fishing skill.

Presentation of the lure is of prime importance in clear waters, as the fish can see each move you make. The fish can also see the lure if the monofilament line is too heavy. I use 4-pound test line unless the water is very swift and filled with snags. Then I go to a heavier line such as 6- or 8-pound test. River bass rarely reach the size of pond bass and 6 pounds is about the largest smallmouth I have seen from the area I fish. However, a river smallmouth this size would be a supreme challenge, especially on the light tackle that is best suited to river conditions. In length, a smallmouth can match the largemouth bass, but the river bass is slender and streamlined while the largemouth is much bulkier, especially during spawning. Both bass are excellent gamefish, but I prefer the leaps and quickness, rather than the steady power with a few jumps that the largemouth makes.

Some friends and I were sitting around the wood stove one night discussing river fishing. One of them asked me what was my favorite river fishing lure and my reasons for using it. To me there is no greater moment in the fishing world than the instant a smallmouth bass smashes a surface lure. With this reasoning, my choice would be the famous surface lure known as the balsa minnow. These can be bought in many stores under different brand names, but my favorite is the rapala minnow imported from Finland. I have caught smallmouth, largemouth, sun perch, goggle-eyes and other river fish on this same lure.

The action of this lure is truly brought out by the current of the river. As I toss it across the stream, it wiggles and moves like a true minnow which is the natural bait for almost any game fish. Experience has taught me how to make it move just the right amount and how to tease the bass into striking at it. The best method I have found is to toss the minnow to river's edge and count to five. Then twitch it and count to five again. Many times the fish will hit the lure as soon as it touches the water. Other times the first twitch will seem to make the bass strike the lure. If no strike occurs I bring it in with a slight jerk every six to eight feet. On the way in, the lure will cross many feeding stations, and many times you will get a fish.

One disadvantage of a floater is that when the water is milky or muddy, the fish cannot see the lure. I usually go to a spinner, but I have still caught fish in the edge of the river by using a bright orange rapala. The secret is to fish right against the bank where the water is shallow.

A good reason for using this lure, besides the thrill of the surface strike, is the fact that the lure does not get lost easily. Many spinners and underwater lures will get hung on the bottom where rocks, old limbs, and other things tangle them up. But the balsa minnow does not get tangled up because it does not sink more than a couple of inches.

Most fish do not feed on the surface, but the water I fish is generally three feet deep and fairly clear. Therefore,

river fishing is not like lake fishing where the water is deep and the lure must go down to them. The fish of the river can see a surface lure, and have no trouble in attacking the lure whether they are feeding on the surface or not.

Some of my friends use live bait such as small frogs, crayfish, hellgrammites and worms. These are all good baits, and are effective methods, but I love artificials and I love the thrill of the surface strike. I would rather "fool them" than "feed them."

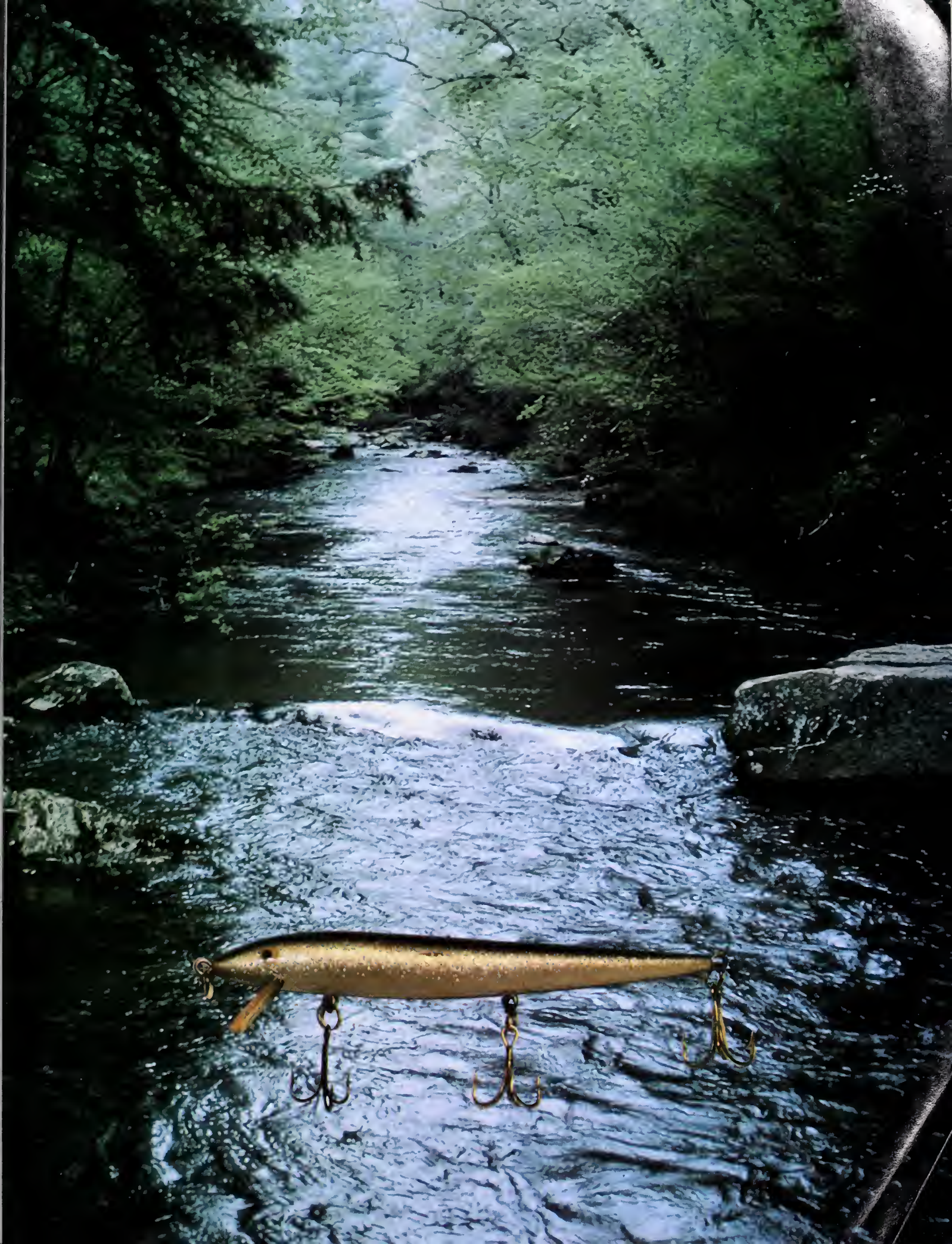
My fishing comrades wanted to know if I had any special secrets that they might benefit by using. My way is not different, but perhaps it is the small things that count the most. When I buy my lures, they are either gold or silver, the only exception being the bright red one for muddy water. Once I was fishing with a good friend from Strasburg who was using a bronze lure. I had on a gold and his bronze was outfishing my lure almost two to one. My old standby is labeled 7G, which means size 7 with the gold color. Close behind would be 7S which means 7 silver. I have tried the other colors such as blue, yellow and green, but these are the ones that stay in my lure box. Sometimes when the big golden sun perch are spawning, I will drop down to a size 5. I have had some marvelous days catching giant perch in the shallows. When big bass are in an area, I might use a 9G, which is large and suitable for larger fish.

The way I tie my lure to the line has also caused some heated discussion around the old wood stove and checker board. I tie my lure directly to the line with the improved clinch knot and use six turns every time. Other fishermen say that this will cause the line to "kink" and I agree that sometimes it does. Many people tell me to use a swivel, but I have found over the years that the swivel impairs some action, and that if the swivel is too large or shiny, the fish will sometimes strike it instead of the lure. Others tell me that it takes too long to change lures, but since I use this lure most of the time, I seldom need to change. The main reason I tie the line directly to the lure is that to me it makes the lure look more lifelike and natural motion seems easier to produce without the snap-lock swivel.

Another thing I do is to file off the barbs of the hooks unless I am after fish to bring home for the supper table. Nearly all my fish including keepers are returned to the water. The barbs have a way of tearing up a small fish. The barbless hooks also make me learn to play the fish, rather than "hoss" him in quickly. Sure, I lose a few each year. In fact I lost a citation fish last year, but it has made me a much better fisherman. The secret is to keep a steady line and play the fish on each jump. It is also much easier to shake the fish off the lure into the water without touching him if you plan on returning him.

With this one type of lure, my five foot rod, and 4-pound test line, I have had many a happy time on the Shenandoah. The bass, perch, and other fish have filled my cup to the brim with excitement. Try my method and enjoy the waves of water as the smallmouth smacks your lure. Watch him jump and run across the water trying to keep his freedom. It is a marvelous sight to see, and I consider the rapala minnow the most effective fish-getter of all time when the river is your place to fish. □









# The Adaptable Raccoon

**This intelligent and  
mischievous carnivore  
thrives because of, and in  
spite of, man's presence.**

**by Paul H. Bratton, Jr.**

In the late 1800's James Mooney journeyed to the wild regions of the Smoky Mountains to record the beliefs and legends of the native Cherokee. One myth he found is an account of how the redbird got its color but the story reveals more precisely the character of the raccoon.

It tells of a raccoon who taunted a wolf with various insults until the wolf chased him. The raccoon raced to a tree overhanging the river and climbed to where he could lie stretched out on a limb. The wolf, on arriving and seeing the raccoon's reflection in the water, leapt into the river at the image and nearly drowned before he could climb out.

Laying down on the bank to dry, the wolf fell asleep only to have the raccoon come down and plaster his eyes shut with dung. When the wolf awoke and found himself unable to see he whined until a small brown bird came and pecked the plaster away. To repay the bird the wolf showed him the source of some red paint. The bird colored himself with the paint and has been a redbird ever since.

Like his mythological ancestor, the modern raccoon is still considered the most mischievous and intelligent of all carnivores. His masked face and ringed tail readily identify him whether he is found in folklore or rummaging through an unguarded food cache, but it is his highly developed forepaws that make him unique. The raccoon's five-fingered paws are as sensitive as our own hands. They are capable of unlatching cabin doors and probing the unwary hiker's backpack. If the need arose, they could undoubtedly plaster dung.





Even more complex tasks are not beyond the raccoon's manual dexterity. My typewriter has not been the same since an inquisitive raccoon started dismantling it one evening. By the time I intervened, several keys had been disconnected and one spring, stretched far beyond its capacity, hung dangling from the innards of the machine.

Curiosity consumes the raccoon, particularly the young of the species. Every hole large enough to wiggle into is investigated and anything that can be climbed, is. When confronting an unfamiliar object, the raccoon takes obvious pleasure in fondling and manipulating the article, exploring any crevice with its supple fingers.

Though the raccoon's curiosity may occasionally get him into trouble, it has high survival value. Discussing the "creatures of curiosity," Konrad Lorenz wrote: "Through the fact that such animals at first treat everything novel as if it were of the greatest biological importance, they inevitably become acquainted with every small detail of the most extreme and varied ecological niches which can contribute to the preservation of their existence."

It is this ability to utilize varied ecological niches that has allowed the raccoon to adapt to life in a people oriented world. In wilderness and woodlots, seashores and suburbia, the raccoon thrives from southern Canada to central America excepting only areas that have prolonged winters or lack suitable aquatic habitat.

Even in large cities, the adaptable raccoon has held its own, making efficient use of storm drains, attics, garbage



The raccoon is equally at home seeking food in a stream and looking for a comfortable tree hollow to sleep in (top left and center). Although classed as a carnivore, the adaptable raccoon is actually omnivorous, eating whatever is available, from grapes to crawdads (above).



dumplings and other elements of the urban environment. A two-year study found raccoon densities higher in Cincinnati than those reported for more traditional habitats. Moving only between den sites and feeding stations, the Cincinnati raccoons required smaller home ranges than their country relatives.

In wilder areas, raccoons maintain home ranges that shift with the seasons and food availability. The home range — up to a mile in diameter — may overlap that of other raccoons, but a mutual avoidance is practiced by neighboring raccoons. Socializing among the adult raccoons normally occurs only during winter denning, when as many as 23 have been found in one tree den, and later in the winter when the adult males travel from den to den seeking a willing mate.

Though classed as a carnivore, the raccoon seldom exerts himself in the pursuit of animal prey, preferring to concentrate on those food sources that can't easily escape. Acorns and field corn are among the favored foods of raccoons, but it is chiefly availability that determines the diet of the omnivorous raccoon.

Raccoons do have a marked preference and skill for obtaining aquatic prey. They are frequently found wading shallow streams and at the edges of larger water bodies in search of crayfish, minnows, frogs, and other edibles. As the handlike forepaws probe crevices and under rocks, the hunting raccoon often stares abstractly into the distance using only touch to locate and capture the prey until a quick bite can dispatch it.

The raccoon's washing of its food before eating has been immortalized everywhere from children's books to the scientific name, *Procyon lotor* (*lotor* means washing). Despite such fairy tales, the wild raccoon doesn't intentionally wash his food. He only probes to capture and fondles to identify and explore the potential food items whether or not they are in water.

Those captive raccoons who have no outlet for their normal aquatic hunting techniques do seem to wash their food, often dowsing dry food in their water bowl and then probing for and fondling it. The actions allow them to exercise their instinctive behavior patterns for aquatic hunting and perhaps pretending to catch the food makes the monotonous diet of captivity more interesting to the raccoon.

Many of man's highly-touted assumptions have a hard time surviving in the presence of a beast as intelligent and independent as the raccoon. The Skinnerian belief in a world controlled strictly by reward and punishment is not easily applied to the relatively carefree existence of the raccoon. At least one attempt to train a raccoon failed when the subject became more interested in fondling the tokens given him than banking them for a food reward.

Except for occasional sightings in car headlights and one brief encounter with a wild raccoon family, my own experience with raccoons is limited to the individual who worked on my typewriter. The young cub was found wandering about a highway so weakened by malnutrition that he could hardly stand on his front legs. Several days later, after a visit to a veterinarian, the cub ended up at my cabin in Virginia's mountains.

At first the young male was barely able to climb onto the sofa to his preferred den behind the cushions. But as he grew stronger and his teeth developed he ventured outside, learning to descend the hill to a small, crayfish-stocked stream.

Capturing the dozen or so crayfish the cub could eat in a day quickly became a time-consuming job. I would spend the afternoons crawling about the river's edge, probing crevices and under rocks to fill a jar with crayfish. In the evenings I set them loose in confined pools that were accessible to the cub.

The cub instinctively knew what to do with the crayfish though it took some practice for him to become skilled in capturing them while avoiding the crayfish's defenses. The young raccoon chattered in indignation whenever the crayfish, catching a toe between the strong pincers, got to him first.

As the cub acquired greater self-sufficiency, he became less and less tractable. By nature a solitary hunter, the raccoon has no inclination to submit to any imposed restrictions on his food gathering. Any attempt to deny the raccoon food he has discovered (as in a sugar bowl) is met with snarls and characteristic sharp grunts that indicate danger or, in this case, extreme displeasure. If restrained, he would snap at hands holding him even though he usually allowed any liberties by those he learned to trust. Only grunting back at the raccoon sometimes deterred him.

By mid-September, the raccoon entered a stage of semi-independence, disappearing all day to sleep in various holes and hollow trees and only coming into the cabin for food and play during the evenings. In addition to dismantling typewriters and emptying sugar bowls, the young raccoon enjoyed wrestling. He signaled his readiness for the mock fights by his "hopping mad" threat display.

During the display, the guard hairs are erected on the tail and arched back to achieve the greatest bulk, while the front legs are spread so that the head is held low and thrust forward with flattened ears. The raccoon then hops sideways or scoots toward and away from the threatened subject. Viewed from the raccoon's eye level, the actions present a menacing appearance, even in play.

One October night I followed, by sound as much as sight, while my companion scurried through the leaves and scrambled about in trees, erratically exploring the forest behind the cabin. The moon was full and bright enough to cast a shadow in the open. But under the dense white pines, I only occasionally caught a glimpse of the raccoon outlined against the night sky.

Once he climbed out of a tree onto my shoulder but he had little time for visiting. He was more intent on luring me deeper into the woods, first racing ahead, then looking back and waiting for me to catch up. A cow bellowed and farm dogs barked across the river but such sounds were too far away to interest the young raccoon.

Even in my own backyard I stumbled about, bumping into branches, and occasionally using a flashlight to orient myself. Finally I turned back, afraid that my clumsiness and artificial light disrupted too much of the raccoon's world. That time the cub returned with me to the brightly lit cabin. But more and more enticed by the wild, the cub left a few weeks later to make his own way and lead the generally solitary life of an adult male raccoon.

It has been a year since the young raccoon shared my cabin. Once in late winter I followed a set of raccoon tracks that led through the snow to the sleeping and feeding sites the cub had frequented. Several times I have found handlike prints beside the streams we foraged together, the blurred imprints recalling my brief glimpse of another existence.

Man is quite impressed with the ability to turn night into day. The raccoon is more likely to be impressed by man's inability to function away from well-lighted cages. But whatever the barriers that separate the world of men from that of raccoons, the raccoons are among the few wild carnivores that continue to thrive both because of, and in spite of, man.

Whether following ancient ways in the few wilderness areas man allows to exist or seeking new realms in the labyrinths of cities, the raccoon will survive, reminding men that there are other lives and other worlds all around, if we only have the eyes to see them.



# It Appears to Me

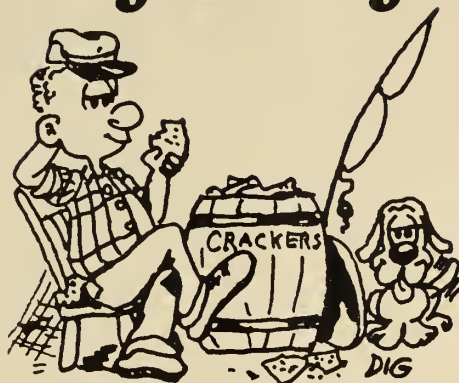
## ... A PERSON OUGHT TO HAVE ONE

At times I reckon all of us have felt that, no matter what our geographic proximity to the so-called seat of government in Washington, D.C., it is next to impossible to keep abreast of just what is going on. Oh, we read in the paper that this bill or that bill is under consideration, we hear and see the news on radio or TV, but it is difficult for us average folks to stay current on these vital issues. Not so anymore! The staff at the National Headquarters of the Izaak Walton League of America (Arlington, Va.) have developed a "Hot Line" which makes all sorts of information about key conservation issues available for the mere cost of a phone call. The information is in the form of pre-recorded messages which are updated each week, or more often if the situation warrants. For the real scoop on what is or is not going on at that "little ole town on the Potomac River," call 1-703/522-5848.

The subject of toxic waste is not a pleasant one; it's just the opposite. But like death, taxes and this month's fuel bills, it's with us. In November 1980 more sophisticated regulations came into being regarding the dumping of these wastes. These restrictions will undoubtedly cause increases in the illegal dumping actions which, unfortunately for all of us, are already quite prevalent. In that regard, I am pleased to say that once again our friends at the National Wildlife Federation have done something about the situation. Those good people have produced a free publication entitled "The Toxic Substances Dilemma: A Plan for Citizen Action." In this little gem you will find answers to problems such as the discovery that "overnight someone dumped containers of toxic chemicals in your favorite trout stream" or "mysteriously" the quail coveys you cherish are no longer around. Then you discover (too late) the poisonous waste left throughout their habitat. This 123-pager is written in terms which are easy to digest, is liberally laced with photos and graphs, defines the pollutants, chemicals and toxic wastes, and outlines the effects and risks involved. For your free (single) copy, write to The National Wildlife Federation, Department TD, 1412 16th Street, N.W., Washington, D.C. 20036.

The interest in alternate sources of energy continues to build and if your particular area of interest is "solar," the

## by Curly



National Solar Heating and Cooling and Information Center is where it's at for you. These folks have fetched up and categorized all manner of details about some two-thousand solar-oriented or related products which range from storage containers to collectors. To obtain more information, most of which is free, write to Solar, P.O. Box 1607, Rockville, Maryland, or call them at 800/523-2929.

I am proud to say that long before this current crunch on the products, petrol, all the oil that I drained from my trusty "vintage" Ford was not wasted; a friend regularly and gladly accepted it for use in his equally-vintaged farm tractor. If this sort of second-life use of oil is of interest to you (and I hope it is), try writing to the American Petroleum Institute requesting their booklet entitled "Recycle Used Motor Oil; A Model Program." Not only is this a handy item for personal use, it is applicable for use by all types of organizations. The address is American Petroleum Institute, 2101 L Street, N.W., Washington, D.C. 20037.

## ... FOR YOUR BOOKSHELF

With Christmas almost upon us, it is a perfect time to examine a nearly endless source of gifts in the form of books and other publications. One such is a beautifully, and I emphasize "beautifully," done book entitled "The Ken Brown Guide to Bowfishing." This fellow Brown is from Hugo, Oklahoma and not only is he an active outdoor writer, accomplished photographer and bowfisherman, he is also an expert calligrapher, a talent that he uses freely in his writing. "Bowfishing" combines the selection of bowfishing gear, description of techniques, state-by-state rules governing bowfishing, photos of equipment, and the steps to be taken in preparing the harvest for the taxidermist. There is also one section which really appealed to me. . . "the fixing for the

eating" part. If you are looking for something that will please the angler in your house, consider "Bowfishing": the price is \$9.95 postpaid in the unpersonalized version, \$12.95 in a calligraphy treatment, from Box 637, BA, Hugo, Oklahoma 74743.

The Potomac Appalachian Trail Club is backing a book written by Carolyn and Jack Reeder which should really appeal to those of you who love history . . . especially if you are interested in the Valley known as Shenandoah. "Shenandoah Vestiges: What The Mountain People Left Behind" is packed full of photos taken at cemeteries and old homeplaces in Shenandoah National Park. Also shown are the remains of some old mountain homes, gravestones, tools, all manner of utensils and other evidence of what life was like in the early days of the Valley. You can order it for \$4.50 postpaid from the Potomac Appalachian Trail Club, 1718 N Street, N.W., Washington, D.C. 20036.

Speaking of history. . . if by any chance the person you need a special present for is inclined that way and has any interest in maps, here's a tip for you. Our friends at the Division of Mineral Resources have just released a series of six maps covering the Great Dismal Swamp National Wildlife Refuge. These are at a scale of 1:24,000, which is the 7½ minute quadrangle map (22 x 27 inches in size) and they are "prettier than a speckled pup" in a new kind of orthophotomap color rendition which is just great. Each sheet costs \$1.25 plus tax from the Division of Mineral Resources, McCormick Road, University Campus, P.O. Box 3667, Charlottesville VA 22903. Or you could call them at 804/293-5121 and ask for any or all of the six maps which are entitled: Suffolk, Deep Creek, Lake Drummond and the (SE/NW) Drummond Quads, Corapeake and Brandon, with the latter showing an outline of Chickahominy Wildlife Management Area.

## ... AND THEN

It has been some kind of year, hasn't it? However, we have weathered what was thrown at us, and then some, with our own kind of American stick-to-it-ness and resilience. Fortunately, this was all held together with a mighty generous helping of love and understanding bestowed upon us by our Maker. . . a fact that we acknowledge by saying a grateful "thanks." With that in mind, and in that spirit, we wish all you good folks, Seasons Greetings! □



# Do It Yourself Deer Park

*A touch of the English countryside in the mountains of Virginia*

*by R. T. Lawrence*



Leonard Lee Rue

While seeing the castles and chateaux of Europe with my wife, as she was examining the furnishings and bed where Queen so-in-so slept, I would be peering out the window watching the deer feeding in the surrounding parkland and dreaming the impossible dream of someday having a deer park on our farm in Virginia.

The dream has come true and for several years my family has been enjoying the lovely sight of deer feeding within 100 feet of our living room on almost any morning or evening and even sometimes in the middle of the day when it is cloudy and drizzly.

And our "self help deer park" costs only about \$15 per year!

It all began when we admired the occasional alight of deer feeding in the fields nearby (a response to the protection we have given them against poachers and night hunters) and we recalled reading how Thomas Jefferson and his farm assistants would feed the deer on the edge of the woods near Monticello.

We used shelled, whole corn placed on the upturned top of a plastic garbage can. About two gallons of corn lasts a week — a small amount is taken by large birds and small animals — and about 200 pounds would be sufficient for a home deer park from early spring to fall.

A yard full of barking dogs, even one little dog outside, would chuck the whole project. We keep one good watch-

dog, and do all we can to keep down the number of stray dogs in the area.

We also take a dim view of the pickup trucks with the guns slung up on racks back of the driver's seat. It's not unusual to see them cruising the small back roads in the early morning and late afternoon when the deer and other wild game are moving about. Sometimes a shot is heard in the distance and later the remains of a deer or the feathers of the wild turkey tell the tale. The game are not afraid of a vehicle and may be viewed standing near the roadside, staring at cars and oblivious to the danger from the so-called ground hog hunters — until it is too late. It is against the law to shoot within 100 yards of a public road, but it makes very little difference to these indiscriminate poachers.

Location of the deer feeding spot is important. Ours is about 30 feet from a thicket, on the edge of the lawn. They prefer to be near wooded cover and would probably not come to food in the middle of a pasture except at night. We sometimes place feed down in a mown field about 300 yards from our terrace, where we can watch them while being ourselves outside. The ones closer by have to be watched from inside the house, and too much movement by windows can frighten them away, bounding in graceful leaps with white flags flying. We have seen them feeding at both the near and distant locations at the same time, a special treat.





One morning I saw a doe with two nearly-grown fawns standing shoulder-to-shoulder, all three eating at the same time, casting alert stares at the house. They seemed to take brief turns watching in our direction while the others ate the corn, dipping up and down, ears extended to catch any warning sound. They fed for no more than five minutes, consuming a relatively small amount of corn, then moved away slowly, browsing on weed and brush tips. It was probably the same doe we had fed in the spring when she appeared with two little, light tan, spotted fawns. Now, in October, the spots were gone and their coats were darker. Fawns in the summer are very playful, and enjoy scampering around the lawn, sometimes chasing and even jumping over each other always under the nervous and watchful eye of their mother. While we were sitting at dinner late one afternoon, we were entertained by one fawn that came bounding up to the edge of the terrace, nibbling at the flower plant a few feet from the door.

In the fox hunting parts of Virginia, deer are not in favor with those who ride to the hounds because they draw the pack into far distant chases that the riders cannot follow. However, in Connecticut both pleasures are enjoyed by a master-of-hounds. He has enclosed five or six acres with a 12 foot fence and can enjoy the rare sight of fawns, does and stags at any time of the day. Antlered stags are seldom seen feeding on our place, being much more shy and mainly night feeders.

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**W**e caution against taking home seemingly abandoned baby fawns in the woods. Their mothers have hidden them in thickets and know exactly where they are. The babies instinctively hug the ground and lie absolutely still until almost touched. At this stage they are highly vulnerable to roaming dogs whose owners should realize their lovable house pets by nature turn into vicious killers when they find young wild game of any kind. "Abandoned" fawns should likewise be left in the woods and not taken home by well-intentioned people, because the baby deer are not lost. If a child brings one home, return it as soon as possible to the place where it was found. The mother will find it in a short time.

The special thrill of having your own deer park is not at all restricted to counts and kings on royal estates. If you live near a wooded area where deer are seen, invest in a bag of shelled corn and keep a small pile convenient for these beautiful animals. They will soon lose their shyness and feed trustingly near your house. This can be an effective way of instilling a valued conservation spirit in children, a wildlife project they can take part in and enjoy at home. A self-help deer park can be a continuing royal treat for the whole family.

*Editor's Note: It is unlawful in Virginia to confine native wildlife, so if you want a "self help deer park" on your property, use food — as the author did — not a fence. □*



# Growing Up Outdoors

by Sarah Bartenstein

"I will honor Christmas in my heart  
and try to keep it all the year."

So said the reformed Ebenezer Scrooge in *A Christmas Carol* by Charles Dickens. One of the ways that we "keep Christmas" is through traditions. We have traditional Christmas music, traditional Christmas food, and traditional religious customs that are associated with Christmas. Some of the most widely practiced and loved traditions kept at holiday time focus on various plants, some of which may be in your back yard!

Have you ever wondered how some of our traditions originated? For instance, why do many families decorate a "Christmas tree," and why is the tree usually an evergreen tree? One popular legend says that an early Christian missionary, St. Boniface, (say *Bon-eh-fiss*) started this practice. It is said that one Christmas Eve, he came upon some pagans engaged in a ceremony of human sacrifice and in his anger he cut down the tree under which they were performing the sacrifice. The pagans eventually converted to Christianity, and this tree became their symbol.

Like this one, most of the Christmas tree legends originate in Germany. Martin Luther is credited with beginning the tradition in some stories. Legend says that when walking one night, he was struck by the beauty of the starry skies as seen through the branches of a tree and tried to reproduce the effect with a cut tree and candles. (Now we have electric lights which are *much* safer!)

Since Christmas occurs during the winter months in most of the countries of the world, Christmas trees are usually evergreens. Some say that this is also a religious symbol of everlasting life.

Holly is also a symbol of rebirth and life, and its bright colors against the vast winter whiteness of snowy northern Europe made it a popular Christmas symbol. Holly was placed in various places throughout European homes to ward off evil spirits and bad weather. Also, since the prickly type of holly is "male" and the non-prickly type is "female," people once believed that whichever type was brought into a home first during the holiday season would determine who would "rule" the house in the coming year — the master or the mistress.

Laurel is an evergreen that has become a symbol for triumph. Think of the pictures you have seen of victorious athletes wearing laurel wreaths on their heads. As a Christmas symbol, it also stands for victory: the victory of

the human race through God.

Mistletoe is one of our most popular Christmas plants. A Norse legend tells of Balder, the best loved of all the gods, who told his mother of a dream he had in which his life was being threatened. She went to all the rocks, the trees and plants, and anything else which might be used to hurt Balder, and got them to promise that they would not harm him. She overlooked the mistletoe, however, and one of Balder's enemies used it as a dart to pierce Balder's heart. Balder's mother punished the enemy, but the mistletoe she blessed, because it had killed Balder through no fault of its own. She made mistletoe a symbol of love and promised to bestow a kiss upon all who passed beneath it. One custom concerning the hanging of mistletoe during the holidays is to pluck one of the berries from the sprig for each girl kissed under it.

The use of the poinsettia during the holidays originates in Mexican legend. A young boy knelt at the altar of his church one Christmas Eve, offering sincere prayers to the Christ Child, but he had no gift to give since he had no money. Miraculously, the first "Flower of the Holy Night" sprang up before him, brilliantly colored red and green in homage to the Christ Child. The flower symbolizes for some people the star of Bethlehem and is named for Dr. Joel Roberts Poinsett, who was then the American ambassador to Mexico (1825 to 1829), and who had a deep interest in plants. He brought the flower to South Carolina with him when he left Mexico.

One of the oldest Christmas traditions of all — and one which few Americans practice today — is that of burning a Yule Log. Many superstitions surround the Yule Log. For instance, the log must be cut down by the family that will use it, either on their own land or the property of a friend. The log cannot be bought. It must be lit with a piece of the last year's log. It must burn continuously for the twelve days of Christmas. A person whose shadow was cast by the Yule Log's fire and appeared headless, would be dead within a year. Today, however, the Yule Log exists as little more than a French cake designed to look like the log, called *buche de Noel*. The ashes of the Yule Log are also said to have special powers, such as the power to heal certain ailments.

When you think of Christmas ornaments and Christmas gifts this year, remember that some of our prettiest ornaments are some of our greatest gifts: the plants of the earth!







Hal Brainerd

# CHRISTMAS OUTDOORS

Spending your Christmas day outdoors with  
wildlife could be the best gift  
you've ever received.

DECEMBER 1980

A Photo Essay by Pat Cooley

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As you welcome your friends and relatives with a bough of greens and pine cones (upper left), you can spread a bit of cheer to your bird friends with a "Christmas tree" made of popcorn, seeds, and cranberries: a feast for the days when food is difficult to find (center). While we don't always have a white Christmas in Virginia, we can usually count on a visit from Jack Frost (lower right).







What could be more "Christmas-y" than berries? They might be bright red holly berries (below) or smoky blue cedar berries (bottom). These are also a mainstay for bird feeding throughout the winter.









# The Thrill of It All

**A day in the field is its own reward even if you come home empty-handed.**

**by Charles Greene**

It's three in the morning; alarms have done their thing, warm clothing has been donned, and breakfast of a sort has been eaten. Now the last layer of clothing and the camouflage face paint that makes bow hunters blend into the background is on, and eight anxious archers are ready for the hunt.

We have about two dozen tree stands that we prefer, and we choose from among these when we hunt. We have names for each of the stands, like the Money Stand (so-called because any of us would pay to use it, it has brought us such good luck) or the Hog Pen Stand.

When our party goes bow hunting, it's a rare outing in which all of us don't sight deer, and within good shooting distance. All but one of us have taken deer with the bow. My older brother has had the greatest number of kills so far, 11 deer.

Now everyone has his bow and is carefully placing it in the vehicle that will carry him to the site of the morning hunt. As we get about half way to the hunting area, a rabbit darts across the road in front of us. Our motto is "See a rabbit — see a deer." It has proven true many times.

As we arrive at the place where we will leave the trucks, it is still so dark that we must feel our way to our stands. I like to get to mine long enough before daylight so that any scent that may be left on the ground by my walking to the stand will be gone before the deer start moving in the area. This morning I have chosen what we call the Sizzler Stand. The others are on stands surrounding the field that I am watching.

The sky is light enough now that I catch myself squinting as I try to make out the object that is slowly moving around in the corn field about 100 yards away. Behind me in the woods, the quail that were scattered during the night, probably by a passing deer or a fox on the hunt, are calling each other to try to re-covey before feeding time. After I check around the field and back to the object that first caught my

eye, I notice that it has moved a few yards closer and appears to be eating something — probably an ear of corn left by the cornpicker. After another 20 minutes of waiting and watching, it has gotten light enough and I can see what looks like a nice size doe that I already made up my mind not to shoot.

The sun is up now, and the quarry that I have been watching has stopped its morning feeding and is anxiously making its way to the woods. At this moment, the animal is behind an old barn that is about 75 yards from where I sit. Then I look closely and realize it's not a doe, but a six inch spike.

Now the situation has changed! I reach for the Bear Compound that's still hanging on the nail with arrow nocked ready for such action. He's 75 yards from me. . . now 50 or less. He stops, his nose to the wind. Then he nervously looks back at the field where he probably spent most of the night feeding on the corn.

Now that the nervous spike has decided he has been in the open field long enough he again starts to move straight toward what he thinks is the safety of the woods. He doesn't know that death awaits him at the edge of the woods.

Twenty yards from the woods, the spike has caught a scent or movement that has caused him to stop nervously. At the same instant he stops, I bring the weapon in my hand to full draw and anchor at the hinge of my jawbone. Then the release and the tiny yellow dot of the fletching which guides the arrow in a blur. Too high! The tiny yellow dot slides out of sight just over the top of the lucky little spike. He disappears into the safety of his woods domain.

After the heartbeat returns to a normal pace and my trembling has given way to disappointment, I think back to the beginning of this hunt and the experience that has brought me to this moment, and I realize that this is just part of the thrill of it all. □



# On the Waterfront

Edited by Capt. James N. Kerrick

## Hypothermia

The term hypothermia comes from the Greek, *hypo*, low, and *thermie*, heat. Physiologically, this refers to lowered body temperature. However, it is the temperature of the body core which is critical. Of utmost concern is how best to maintain it, how to prevent its decrease, and how to increase it if it has gone below normal level.

Hypothermia can slow reasoning, metabolism, respiration and heartbeat, and other physiological processes, sometimes to the point of death. Several factors influence the rate of progress into hypothermia: age, size and body type, sex, and physical reaction of the person; the activity; air temperature and wind speed; amount and type of clothing worn; and the individual's mental and physical conditioning.

There are three major types of hypothermia: acute, subacute and chronic (urban).

Acute hypothermia occurs when body heat is rapidly lost, usually from immersion in cold water. The body loses heat 25 times faster in water than in air of the same temperature. Cold stress may occur almost immediately. The aquatic Sudden Disappearance Syndrome (SDS) may be related to this acute cold stress reaction. Cold stress is the effect that sudden immersion in cold water may have upon the individual, including (1) a gasp reflex which may lead to aspiration of water, (2) drastic reduction of breath-holding time, and (3) hyperventilation (rapid taking in of oxygen and blowing off of carbon dioxide) and (4) severe cardiovascular distress.

Subacute hypothermia, often called "exposure," may be caused by prolonged exposure to air most commonly at 30 to 50 degrees F. (-1 to 10 degrees C.) or lower, over a period ranging from several hours to several days. The body undergoes slow but dangerous chemical and fluid changes. Because of these changes, immediate hospital care is of the utmost importance.

Chronic (urban) hypothermia is that most frequently experienced by the elderly, mentally retarded, disabled, chronically ill, alcoholic, and by children, over a long period of time, often at temperatures only slightly lower than normal. It occurs primarily on land, indoors, and often at home. (Although the condition is referred to as "urban," this does not mean that it occurs only in urban areas; it can occur anywhere.)

A condition which may be present or is potential in all cases of hypothermia, to a greater or lesser degree is *afterdrop*. Afterdrop is a continued decline in body core temperature after rescue when the relatively warm core continues to lose heat to the cold outer body tissues. It may also be due to the return of cold, stagnant blood from the extremities that chills the re-warmed body core. The risk of afterdrop can be increased by exercise or peripheral re-warming. The physiological result of a sudden influx of cold blood may cause the core temperature to drop further to a level which can be fatal, usually due to cardiac arrest.

### CAUSES AND PREVENTION

Prolonged heat loss, primarily from critical areas of the

body, due to exposure to wind chill, cold, or wet, or all three, can result in hypothermia. These critical heat loss areas are head, neck, chest, and the groin. Protecting them is important. In a cool or cold environment the following are important points to remember.

It is important to maintain good nutrition. In cold weather insure that you have an additional intake of high energy snacks, such as raisins, chocolate, and candy; as well as bouillon, cocoa, sugary tea, or hot fruit drinks.

It also is important to maintain body hydration (fluid balance) by drinking liquids more frequently.

Stay warm by wearing a hat or cap and by using layers of woolen clothing with a wind and waterproof outer layer, such as good "foul weather gear." The same applies to the feet.

It is important to keep dry and to dress appropriately for the weather.

Do not drink alcohol.

Reduce or eliminate smoking because it may cause a more rapid heat loss from the body surface by dilating surface vessels.

To prevent cold risk:

Plan ahead for alternate heat sources especially on trips and file a plan with proper authorities.

Travel with knowledgeable people and use the buddy system.

If in or on the water, wear a personal flotation device (PFD or lifejacket) preferably brightly colored, on top of layers of warm clothing. Have readily available emergency hailing devices such as flares, dyes, whistle, smoke flares, or mirrors to signal rescuers when assistance is near. It is important to remember that your chances of avoiding hypothermia and of survival in cold water are greatly increased if you can get out of the water. If you cannot get out of the water, hang onto the boat, or any large floating object, or stay with other people. Get as much of your body out of water as soon as possible. Although it may feel cold initially, you lose less heat in air, even though you are wet. Conserve energy. *Do not use drownproofing techniques when in cold water!* Drownproofing doubles your rate of heat loss. If you must stay in the water, minimize your activity when possible and reduce the exposure of the critical areas by assuming the Heat Escape Lessening Posture (HELP): bring your arms close to the sides of your body, cross your wrists over your chest, cross your ankles, keep your legs close together and draw them up slightly to protect the groin. This places you in a slightly "curled up" position, but make sure your head stays out of the water. With some types of PFD's this technique may cause problems of balance and you may periodically have to make some efforts to adjust your position. But do not remove clothing because air trapped in layered clothing provides some buoyancy for a short time and trapped water provides some small reduction of cooling. If there are other people nearby, use the huddle position. This is accomplished by your wrapping arms around the backs of one another, forming a circle facing the others, keeping one another's sides and bodies in as close contact as



possible. This position reduces heat loss by limiting the body surface exposed to the water, aids the searchers in locating you, and keeps up morale. Swim to a nearby object or shore only if you absolutely have to. Swimming not only causes additional expenditure of energy, but also accelerates heat loss from vital areas which reduces your chance of survival.

## SIGNS AND SYMPTOMS

As the body core loses heat below 95 degrees F. (33 C.), symptoms of hypothermia begin to appear. Individual reactions will vary. For example, the skin may be pale or flushed. Generally, the following will apply.

CORE TEMP	SYMPTOMS
95° F. (35 C.)	Conscious and alert but hyperventilating (breathing deeply). Vigorous and uncontrollable shivering. Impaired ability to perform tasks.
95-90° F. (35-32 C.) Moderate	Conscious, mental faculties and speech impaired. Diminished respiratory (breathing) rate. Speech slow, slurred. Reasoning ability lowered. Loss of manual dexterity (clumsy).
90-86° F. (32-30 C.) Severe	May be unconscious, mental faculties severely impaired. Shivering replaced by muscle rigidity. Skin may become cyanotic (darker), puffy and very cold to touch. Cardiac and respiratory arrhythmias (uneven rhythms) occur.
80-86° F. (30 C.) Very severe	Usually unconscious, may be preceded by irrationality. Continued slowing of respiration and pulse. Rigidity persists.
Below 80° F. (23 C.) Critical	Unconscious, reflexes nonfunctioning. Respiration barely detectable or undetectable. Severe cardiac arrhythmias, leading to ventricular fibrillation. Respiratory and cardiac arrest may result in death. Some cases may not fit these categories.

## FIRST AID

It is imperative that treatment begin as soon as possible. Remember, until the victim is removed from the cold environment his body temperature will continue to drop as the core cools adjusting to the colder surrounding tissue.

Generally, in mild cases of hypothermia, initial first aid procedures are to get the victim into shelter, remove cold, wet clothing, and, only if the victim is conscious and alert, offer hot liquids (sugary tea, chocolate, fruit juices) if they do not cause nausea or vomiting, and provide warm dry clothing. Under no circumstances give the victim alcoholic beverages. Alcohol or its effects diminish shivering, thus reducing heat production. It also causes dilation of surface blood vessels causing more heat loss. Do not rub the victim's skin.

When the victim's core temperature is lower than 90 degrees F. (32 degrees C.), extreme care must be exercised to handle him gently. In the acute hypothermia victim, prompt hospital care is essential. Be aware of and reduce the degree of heat drop. Insulate the victim from further heat loss by wrapping him completely in a blanket. Gentle, mild heat can be provided by applying heating pads or hot water bottles to the critical areas of the body.

Heated (104-110 degrees F., 39-43 C.), humidified oxygen or air, if available, should be used throughout the entire rewarming process. If this cannot be obtained, a scarf may

be placed over the victim's nose and mouth to prewarm the air. A gentle form of mouth-to-mouth resuscitation can be given even if the victim is breathing to reduce respiratory heat loss and to help maintain the victim's body core temperature. If he is breathing, use "proximity breathing" (exhaling close to the person's mouth and nose without direct contact) and time your ventilations with his attempts to breathe. Be sure to monitor the victim closely and carefully for respiratory and cardiac difficulty.

If outside heat sources are not available, the rescuers should remove their upper clothing and cut away the victim's clothing to prevent unnecessary jostling and to provide as much body contact on the trunk as possible. Both victim and rescuers should be wrapped in blankets or a sleeping bag.

Since dangerous body chemistry changes occur in chronic hypothermia, these victims should be rewarmed under the supervision of a physician in a medical facility. Insulate the victim's trunk and other critical areas (head and neck) from additional heat loss and transport to a medical facility as soon as possible. Heated, humidified air or oxygen should also be given to these individuals.

It is imperative that all hypothermia victims receive prompt medical care. Again, be sure to avoid unnecessary handling or jostling of a hypothermia victim.

## SPECIAL SITUATIONS

The elderly are the most likely to be victims of accidental hypothermia in home situations because of a reduction in their heat production and/or resistance to cold. Because their temperature regulatory functions may be impaired, they may be subject to accidental hypothermia after exposure to even relatively mild cold. Therefore, the elderly and cold-sensitive should take preventive steps to avoid effects of lowered temperature. They should maintain normal home heating levels, if possible. They should wear adequate clothing such as sweaters, shawls, caps, and extra blankets for sleeping. It is especially important that they eat balanced meals, especially high energy foods. If an individual is on medication which might increase his susceptibility to hypothermia, extra precautions should be taken — even to the point of checking with the physician for the possibility of changing to a different medication. The elderly might not show the same signs and symptoms as younger people, for instance, at a core temperature of 95 degrees F. (35 C.), some elderly individuals may not exhibit vigorous shivering. It is advisable to have friends or neighbors look in on the elderly once or twice a day. They should be informed about how to prevent hypothermia, and taught to recognize and treat it.

If you should come upon an individual in a cool or cold environment who is not breathing and is pulseless, you must begin resuscitation immediately, and don't give up. Individuals have been revived with no ill effects after extremely long periods of apparently lifeless states. The key words to remember in such situations are: *resuscitate*, *insulate*, and *evacuate*: *resuscitate* the victim, *insulate* to prevent further heat loss and to maintain body heat while resuscitating, and *evacuate* the person to medical attention as soon as possible.



# Double Your Pleasure

Cooking your catch of fresh fish  
or game adds to the fun of the hunt.

by John Traister

Words cannot describe the thrill that I get when a lunker bass leaps for the sky, showing its bright red gills as the bass vigorously tries to shake the artificial lure from its huge jaws... that "granddaddy" trout that finally sucks in the dry fly that I have floated past his nose every weekend for months... or the anticipation of waiting for a covey of quail to flush in front of "frozen" dogs on an early November morning.

Any one of these scenes is probably enough to make an outdoorsman drool. But after the game is bagged, there's another way to make your mouth water: cook your catch right on the spot, in the outdoors. This will double your pleasure.

Since most of us eat what we bag from hunting and fishing, what's the big deal? The difference is in how, where, and when the game is cooked.

Let's assume that you and your friend together down three quail on the first rise on opening day of the season. You put the quail in the game pocket of your hunting coat, which is next to your warm body, and then continue the hunt. Both of you have additional luck during the morning, but by noon, each of you are still short two birds to fill your limit. So you have a cold sandwich, a lukewarm cup of coffee and try another nearby field in the afternoon. It takes two hours for the dogs to find another covey, and it took five shots to down your two remaining quail, but you've had a good day and all eight quail are snug in your game pocket.

When you arrive home, you're tired and hungry, so you wait until after dinner to clean the quail. Then, you wrap them up and put them in the freezer to be eaten perhaps a month or two later. When they finally arrive on the table, their taste is probably not unlike that of cornish hen — the ones you can purchase at your local supermarket. Not much of a special treat for that special day afield.

On the other hand, had a couple of the quail been cleaned around lunch time on the day of the hunt, seasoned with salt and pepper, and wrapped in tin foil to roast slowly over hot coals along with a pot of coffee, you would have had a meal fit for a king. Furthermore, with such a meal under your belt, you probably would not have missed as

many shots in the afternoon: you would have been completely refreshed for the afternoon hunt.

This spring, I decided to fish a day in Gooney Creek near Browntown although I had heard that the stream had been fished quite heavily during the first few days after the season had opened. This particular day I carried my pack basket along which contained my camera, film, coffee pot, mess gear, and a little food. If the stream had been fished out, I could at least try to get some photography work in and have a good cup of coffee and a meal.

The first two hours were much like I had expected. My open-faced spinning reel with two-pound test line carried flies, artificial lures, cheese balls, and the lowly worm into every hole in about a half-mile of stream without as much as a nibble. Around 11 a.m. I came across an abandoned campsite and since I had little hopes of catching anything, I decided to fix a cup of coffee.

While the coffee was perking and some rolls were browning in my camp oven for lunch, I again tried a cheese ball, just for kicks, a few yards down stream. The cheese ball on the No. 8 hook washed over a miniature waterfall and within seconds, I was landing a 10-inch brookie. A few minutes later, another brook trout took the cheese ball and ended up in my creel. A third trout was hooked but managed to become unhooked before I could get my landing net under him. Anyway, I had apparently found one hole that the gobs of anglers had missed on opening day... and right next to a camp site, too!

The fish were cleaned immediately and went into the mess kit frying pan: while some butter was melting in the frying pan, I placed a packet of instant cornbread mix in the mess gear plate, added salt and pepper to the mix, and then rolled the slightly-damp trout in the mix. Then, I dropped them into the frying pan with the melted butter and cooked slowly on both sides.

By the time the trout were cooked to my satisfaction, the rolls and coffee were done. I opened a small can of mixed fruit and feasted on the lot. This meal next to a cool mountain stream really made my day. Sure, I had pleasure catching the trout, but the excellent meal doubled my pleasure. □





Staff photo









# HOLLY

by Dan M. Russell

The holly tree is most familiar to us for the bright red berries and waxy, deep green foliage that we use as wreaths and decorations in the Christmas season. Since the time before recorded history, holly has been the subject of many religious beliefs, superstitions, legends and folklore passed from generation to generation over thousands of years. Holly was and is used in surnames such as Holmes or Holman and as a first name. Places and towns are named for it, including our Holmesdales and our Hollywoods.

As a Christmas symbol it came with the belief that the holly was the tree used in the crown of thorns. It is the subject of many ancient and modern stories and poems: a boy soldier in George Washington's Virginia Militia, on an expedition into the Ohio country during the holidays, wrote yearningly to his Williamsburg family of the "Holly and Ivy and Box and Bay, we put in the church on Christmas day." Perhaps this was a variation of a more ancient rhyme, "With holly and ivy so green and so gay, we deck up our houses so fresh as the day." And now, as for these many years, we loudly proclaim, "Deck the halls with boughs of holly."

American holly (*Ilex opaca*) is a native of the eastern and southern United States, but due to transplanting, importing and hybridizing and thanks to our advanced horticulturists, it is well known throughout the country. There are some 200 identified species of holly that belong to the genus. The Holly Society of America registers 113 varieties, 16 of which are controlled hybrids.

A moderately tall, slow-growing, long-lived tree, the holly may reach 40 feet in height. It is used for shade and as ornamental specimens and orchard trees. It can also be trimmed as a hedge, screen or windbreak. The branches of leaves and berries we know go into familiar holiday season decorations.

The spiny-toothed, waxy green leaves, the small, delicate, white flowers that bloom in May, and the bright red berries that may hang on the tree for a year makes a desirable tree of a seemingly evergreen-deciduous mixture. The male and female flowers are borne on separate trees, so anyone wanting a holly tree for the berries should be sure they plant a female tree which bears the fruit and consider the pollination requirements. If there are no male trees in the vicinity it may be necessary to plant one or more of those as well. Put the females where they are needed for show and landscape uses and put the males in less noticeable spots and use for shade or windbreak.

The spines on the leaves get more vicious with age, and anyone that gets careless disposing of a branch or wreath will have good cause to believe the crown-of-thorns theory long after the spirit of the season has passed.



# Confessions of a Plover Lover

The first time I saw a piping plover was the start of a love and curiosity which have not diminished over the years. To me, this tiny, darting, sand-colored creature with its black neck ring was the most beautiful bird I'd ever seen. Though I've since seen many other wonderful birds, that initial joy still persists and the plover will always have first place in my heart.

I met my first plover on an especially warm, late-May morning while walking the dunes above the tide line. I saw what I thought was an injured bird, for she was doing the "broken wing" act, moving erratically across the sand while dragging one wing. Beside myself with compassion and anxiety for this poor hurt thing, I went willingly along with the deception, and trailed her across the dunes, hoping somehow to help. Then I experienced the surprise all novices face as she suddenly took off and flew away, perfectly well and whole.

Amazed, I watched her circle back over the sea grass and land right where we'd started this charade. Something was up; I had to find out what it was. Back I went and sure enough, the broken-wing tactics began again. Not deceived this time, I went to work and, after a 15-minute search, discovered her secret. At my feet, completely camouflaged, was the nest, and in it were three perfect, speckled, sand-and-shell-colored eggs. What a clever creature! Just a slight depression hollowed in the sand, a few shells scattered around, and the eggs resting in the center.

But the plover paced frantically back and forth nearby, peeping over and over in fear for her precious eggs. Didn't she know I would never harm her? But how could she? Man has taught nature's creatures well not to trust him. I quickly retreated behind a dune and watched her. When she felt the danger had passed, she cautiously approached the nest, checked around, then settled herself, fluffed her feathers, and resumed the incubation.

In the weeks that followed, I came every weekend to make sure she and the nest were safe. As the weather warmed, more and more people came to the beach. The nest was in the path of the sun-worshippers walking past on their way to the ocean, but few paid any attention to her peeping. A few would stare and point, but continued on their way, and happily no one stepped on the nest. A trip to the library and some research told me the waiting period would last six weeks, and the eggs would hatch over the July 4th holiday.

On July 3rd when I came to check the nest, it was gone. No sign remained; the shells had been scattered; the depression obliterated. Every trace of the eggs had been removed.

Such excitement and trepidation. Had the eggs hatched? Had someone destroyed the nest? Had the ever-hungry seagulls found it and taken the eggs?

But no, nature's design was complete. The parents had taken them out onto the mud flat and they were all busy



feeding, and what a sight they were, three small balls of down fluff attached to toothpick legs!

And could they move!

When the parents saw me they peeped the danger signal and the babies took off, running on those stick

legs in a zigzag pattern across

the mud. At another signal they suddenly

vanished. With binoculars I discovered the young ones curled up motionless in little depressions in the earth. And they stayed that way, patiently, till their mother signalled the "all-clear."

The babies grew rapidly. By the following weekend they were much larger and steady on their legs. By the end of July, "flying school" had begun, as the various plover families brought their young together in classes

of 25 or more to learn the necessary maneuvers for the flight south. By the

second week of August there were hundreds

of plovers gathered on the flats, and you could

feel the sense of hurry. Time was growing

short. They all milled around with much

exchanging of peeps. It's time! It's time! The next

weekend they were gone. They had headed back to the

outer beaches of North Carolina to their permanent

home. There they would stay until the call came the following spring; go north.

I've continued to observe the plovers in the years since that first encounter, and have learned so much and have never lost that initial thrill. I've witnessed their mating ritual, been present during the egg-laying and seen first one, then another egg appear in the nest. I've cried when a nest was destroyed by some unknown predator, and I've mourned the loss of many nests when a sudden storm flooded the beach, and then rejoiced to see the birds attempt a second nesting. I've guarded as many as four nests in a season, all of which had been established before the beach was opened to the public on Memorial Day. I've even recruited the help of other beach regulars to take on the chore of protecting the nesting birds when I could not be there. Once I "laid my life on the line" by holding off a maintenance truck that we heading straight for the nests. The truck crew thought they were dealing with one crazy lady until I showed them the beautiful eggs; then they, too, joined in with their promise to take special care until after July 4th.

I've learned things that the books don't tell. Did you know that the piping plover is not always the pacifist it is written as being? Wait until you see a seagull intent on getting a plover's eggs being attacked and driven off by a pair of protective parents. You would not believe that those wee things could effectively rout so large an aggressor, but rout him they did, and with all the ferocity of a tern, not with any helpless broken wing trick!

So the love affair continues and I hope it will be allowed to go on. Enough has been said about conservation by others; I can only add my fervent wish that man will learn in time the importance of safeguarding the wonders of our natural world. □

by Marilyn Patterson



# Outdoor Notebook



## Trophy Contest Announced Winners

The top winners in the 33rd Annual State Big Game Trophy Contest were selected Saturday, October 25, 1980 in Harrisonburg, Virginia to climax the two-day event in which the largest number of trophies in the history of the contest vied for honors. The state contest followed selection of the western regional winners who then competed with the eastern regional contest.

State winners in the Big Game Trophy Show are (left to right): Ben W. Jones (Class I, 9 points or over); Linda Markham (Class II, 7 and 8 points); R. E. Murphy (Class III, 6 points or less); and Charles Freeze (Class IV, archery).

Jones, of Smithfield, won top honors in Class I with a score of 236 7/8 for the 19-point deer he killed in Isle of Wight County during the 1979-80 season. Jones was also the winner in the eastern regional contest in Newport News.

Ms. Markham, a resident of Goode, won for the deer she took in Bedford

County. The eight-point deer brought a score of 183 11/16.

Class III winner Murphy of Dillwyn, whose trophy won in the same category at the eastern regional, scored 136 11/16 for the 6-point deer he killed in Buckingham County.

Archery winner Freeze is from Luray. He took his 10-point deer in Page County winning with a score of 189 7/8.

In the bear category, D. L. Ritchie of Timberville won with a score of 26 5/8 for the bear he took in Rockingham County.

The Western Regional and State Contest was sponsored by the Harrisonburg-Rockingham Chapter of the Izaak Walton League of America. Judging of the contest was under the supervision of Game Commission Biologist Max Carpenter. The current contest is the 33rd in a series which had its beginning in 1948 when trophies harvested during the 1947-48 hunting season were entered in competition.

## Cover Prints Available

Winter Woods, the beautiful painting of white-tailed deer featured on our front cover, is by the well-known wildlife artist Edward J. Bierly. A Virginian, Mr. Bierly's work should be familiar to our long-time subscribers, since many of his paintings have been featured on the covers of *Virginia Wildlife*. You can order your own full color print of Winter Woods in either of two sizes. The open edition print is unsigned and is printed on fine quality stock. The overall size is 20" by 26" and the print costs \$25 plus shipping and tax. The limited edition (600) print is signed and numbered by the artist. It is produced on imported 100 percent rag paper; overall size is 24" by 32". This edition is subject to prior sale, due to very low inventory. The print costs \$100 plus shipping and tax, and includes framing instructions and a biography of the artist.

All prints are shipped flat via UPS. Send your order with remittance and street address to EJB Editions, 8833 Lake Hill Drive, Lorton, Virginia 22079. Please include \$4.00 shipping charge and four percent Virginia sales tax.



## **Safety Motto Winner Awarded Hunting Knife**

This custom-made hunting knife was recently awarded to Jeff Kinder, the winner of the 1980 Hunter Safety Motto contest. The knife, made by Richmonder Ben Shealor, is engraved with Jeff's winning motto: "Hunting is an American Heritage — Don't Blow It Away."

## **Commission Tries Computer Game Tag Experiment**

Hunters in some western mountain areas will be the first to use the Game Commission's experimental, computer-readable game tags. The new tags will be tested at 63 Game Checking Stations in Alleghany, Augusta, Bath, Highland and Rockbridge counties.

The new cards are expected to provide game biologists with more accurate information at a higher rate of speed than the previous tagging system. Testing is being conducted in the southwest since those checking stations normally handle the largest volume of animals harvested during the fall seasons. Information obtained from the new tags will show species, sex, visible antler points on deer, type of weapon used, the hunter's name, address and tag number, type of license, land classification, and the date the harvest took place.

At eight of the stations, Game Division personnel will be on hand for the opening and closing days of the deer season to perform some specialized examinations of the animals checked. This consists of aging, weighing, determination of sex and a general examination of the animal's condition.



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# Wintertime is Oystertime

BY JOAN CONE

Oysters were an important food for Indians and the first colonists in the tidewater Virginia area. It has been reported that ships would have to steer around huge banks of oysters.

Indians used oyster shells as tools, fertilizer and building materials. Crushed shell was mixed with clay which made for stronger pottery. They ate oysters year-round.

Oysters today are as nutritious and delicious as ever. They are in prime condition during the winter months. Here are some ways of preparing oysters for the whole family to enjoy.

## OYSTER-CHEESE HORS D'OEUVRES

- 1 pint shucked oysters
- 8 ounces port wine cheese
- 24 to 30 round sesame crackers

Drain oysters and remove any remaining shell particles. Place oysters in a single layer in a well-greased baking dish. Dot oysters with cheese. Bake at 350° F. for 15 to 20 minutes or until edges of oysters curl and cheese melts. Remove each cheese-topped oyster with a fork from the baking dish and place on a sesame cracker. (Makes approximately 24 to 30 canapes.)

There's nothing better on a cold winter's day than a bowl of hot oyster stew.



## OYSTER STEW

- 1 pint shucked oysters
- 4 tablespoons butter
- 1 teaspoon Worcestershire sauce
- 1 teaspoon celery salt
- 1 quart milk
- Salt and pepper to taste
- Paprika

Drain oysters, reserving liquor (liquid). Remove any remaining shell particles. In a 2-quart saucepan, place butter, Worcestershire sauce and celery salt. Cook slowly for

one or two minutes. Add oysters and liquor and cook gently until oyster edges start to curl. Add milk, salt and pepper to taste. Heat thoroughly but do not boil. Pour into bowls and garnish with paprika. (Serves 4.)

Creamed oysters over hot biscuits make a perfect holiday luncheon or dinner.

## CREAMED OYSTERS

- 1 pint shucked oysters
- 1 tablespoon butter
- 1 tablespoon flour
- 1/2 teaspoon salt
- 1 can (10 3/4 ounces) condensed cream of celery soup
- 1/2 cup evaporated milk
- 2 hard-cooked eggs, sliced
- 1 can (2 ounces) mushroom stems and pieces, drained
- 2 tablespoons chopped pimiento
- 2 teaspoons chopped parsley
- 4 large baking powder biscuits

Drain oysters, reserving liquor. Remove any remaining shell particles. In a two-quart saucepan, melt butter. Add oysters and liquor and cook slowly until edges curl, stirring constantly. Stir in flour and salt. Add soup and milk; cook, stirring constantly, until sauce is smooth and hot. Add eggs, mushrooms, pimiento and parsley; mix well and heat. Spoon over hot baking powder biscuits. (Serves 4.) □

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# The White-Breasted Nuthatch

The woodlands of winter can be very cold and barren. On some days they are silent and seemingly void of life. A deer hunter or winter hiker walking quietly through the stillness, with snow muffling footsteps, might think he or she is the only living creature in the woods if it were not for the rabbit and squirrel footprints. However, when the hunter finds a good stand or the hiker pauses to catch a breath, they will find they are not alone. Standing quietly, listening and watching carefully, they will learn that they have company: the white-breasted nuthatch.

Its call, a nasal "yank," drifts through brittle, creaking branches. Sometimes a soft, tapping sound is audible as it seeks insect eggs, pupae and hibernating insects that are hidden in the crevices of the bark of trees. It flies through the winter air with a flash of quick, quiet wings. Landing on a tree trunk, it begins creeping, head first, down the trunk. The nuthatch grabs tightly with its feet, with at least two, and usually three, togs back and one forward as one foot is placed back under the tail. It actually hangs upside down with that one foot as the other is brought straight forward under the breast in order to grasp and hold on for its next step. Strong, long claws and a short, stiff tail aid the bird as it moves quickly and nimbly down and around the trunk in subtle jerking motions.

The white-breasted nuthatch is about six inches in length with a black crown and nape, bluish upper-parts and white under-parts. Sometimes a rusty wash is visible on its flanks and undertail coverts.

Nuthatches are wanderers in winter, usually traveling alone or in pairs. However, on occasion it will travel with mixed flocks of chickadees, titmice and kinglets. Its winter movements are influenced most by food availability, and they may show up in areas where they are not usually seen. Like many winter bird residents, the nuthatch wanders into residential areas especially when the weather gets nasty. Most likely it is because it is able to obtain handouts from the increasing number of bird feeders maintained by city and suburban dwellers. It is easily attracted with sunflower seeds and especially suet. It habitually carries sunflower seeds from a feeder and inserts them securely in the bark of shagbark hickory trees for later use. Its strong, slightly upturned bill is used in cracking the shells of seeds and nuts.

During breeding, it nests in tree cavities, old woodpecker holes or rotted-out knot holes. Sometimes it will dig out its own hole in a decaying tree. The male assists in bringing nesting materials, but the female does the arranging. While incubating her eggs, the female is brought food by her mate, and both parents feed the hatched young.

The families remain together for a short time into winter, then scatter to roam alone, in pairs or with mixed flocks of other birds. Watching and feeding the white-breasted nuthatch somehow helps to shorten the dreary days of the winter season. □







# In Nature's Garden

by Elizabeth Murray



## The Purple Gerardia



I have feared the accusation that I was choosing too many pink flowers this year. Next I felt that charges of a bias towards parasitic flowers could be levelled against me. This month I stand guilty on both counts. Purple gerardia is both pink and parasitic.

The main interest in the botanical laboratory where I work at the University of Virginia is parasitic plants. Research is being conducted on the anatomy and structure of the *haustorium*, the organ of attachment which a parasitic plant makes with the host plant. Host plants are grown in the laboratory and exudates from their roots are studied to look for the substances which initiate the parasitic growth. Preliminary work has begun on a plant called *Striga* which is a very serious pest of corn crops further south. I am involved with growing seedlings of several different plant species, one of which is *Agalinis purpurea*, the purple gerardia.

Most of the seedlings are used in the research work before they are a month old, when they are only half an inch tall, and have about four little leaves. Occasionally a plant in a test tube will be left for a few weeks and will produce a tiny flower. But nothing that we do in the laboratory gives any true idea of what the purple gerardia is like in the wild.

The plant can grow to at least three feet high. Stems branch many times with numerous, linear, opposite leaves. Flowers are in loose racemes and are usually a very intense, deep pink. Petals are joined with five slightly unequal lobes. There is a long protruding style surrounded by smaller, slightly hairy stamens. The fruit forms an elongated capsule. Ms. Goodwin found it impossible to reproduce the appropriate shade of pink with her usual water colors, and had to use, in addition, some aniline paints to achieve the right color.

*Agalinis* belongs to the Scrophulariaceae or figwort family, and to the branch of the family, the Rhinanthoidea, which includes a great many parasitic and partially parasitic plants. There are about a dozen species of *Agalinis*; it is, in fact, the largest group of root parasites in the southern United States. All species of *Agalinis* are parasitic to some extent, although their host requirements are less specific than previously imagined. In the laboratory, *Agalinis purpurea* parasitized no less than 19 different species presented as hosts. The species will also flower and set seed in the absence of any host, although the plant thus formed is smaller than usual and this "autotrophic" or non-parasitic behavior has not been observed in nature.

Purple gerardia has a wide distribution throughout the southeast, but grows best in the coastal plain, usually along the banks of roadside ditches and swamps, under somewhat acidic conditions. It does grow in the Piedmont, and as luck would have it, there was a small stand along the road to my house which bloomed very beautifully this year in late September. I was afraid that the blooms would drop off the stalk after picking, so Ms. Goodwin went out and sat in the ditch to do the initial work on her illustration. Actually, after picking, although the mature flowers did drop, the immature flowers continued to bloom for about a week. This is not necessarily a reason for picking the flower. It is not all that common, and despite the fact that it forms associations with a variety of hosts, it can, of course, only grow where it can succeed in making some kind of appropriate parasitic connections. □

VIRGINIA WILDLIFE



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The woods are lovely, dark and deep  
But I have promises to keep  
And miles to go before I sleep  
And miles to go before I sleep

--Robert Frost, "Stopping by the Woods On A Snowy Evening"

Happy Holidays from Virginia Wildlife